



ELECTRONIC TUBE REFERENCE

GI50A

Power - Triode (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Power transmitting triode intended for RF amplification, oscillation, or modulation. Manufacturer documentation emphasizes professional transmitter or industrial RF service with substantial plate voltage, current, and output capability.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	13 V / —	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
MAXIMUM PLATE VOLTAGE	32000 V
MAXIMUM PLATE DISSIPATION	40000 W
MAXIMUM GRID DISSIPATION	1000 W
Promoted-field audit performed from English ratings/characteristics; detailed electrical values retained in parameter table.	

The TU-50A triode is used as a wide-band Cathode: directly heated, carbonized thoriated Envelope: metal-ceramic with outer copper anode Cooling: forced (water for anode, air for stem and K1, K2 —xarop; C - ceTKa;

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 Electronintorg

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1968 ELECTRONINTORG

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
anode	420	Height: at most 420 mm. A - anode
temperature, °C [1]	118 C	yCKOpeHueM, m/c? 118 Ambient temperature, °C —60to +70
temperature, °C [2]	-60 C	yCKOpeHueM, m/c? 118 Ambient temperature, °C —60to +70
temperature, °C [3]	70 C	yCKOpeHueM, m/c? 118 Ambient temperature, °C —60to +70
voltage (ACorDC), V [1]	13 V	HanpsbkeHune Hakana (~ wnm =), B 13 Filament voltage (ACorDC), V 13
voltage (ACorDC), V [2]	13 V	HanpsbkeHune Hakana (~ wnm =), B 13 Filament voltage (ACorDC), V 13
voltage, absolute value	3 V	OTpuyaTencHoe HanpshkeHne 3anupaHus Negative cutoff voltage, absolute value
current [1]	3 A	ceTku, abCoMoTHOE 3Ha4eHke (Npu (at anode voltage 10kV, anode current
current [2]	10 A	ceTku, abCoMoTHOE 3Ha4eHke (Npu (at anode voltage 10kV, anode current
voltage [1]	1 A	0,1 A), B, He 6onee 450 Peak anode current (at anode voltage
voltage [2]	6 A	0,1 A), B, He 6onee 450 Peak anode current (at anode voltage
voltage [3]	450 A	0,1 A), B, He 6onee 450 Peak anode current (at anode voltage
voltage [1]	3 kV	Tok aHoAa B UMy bce (Npy HaNpPRXKeHUu 3kV, peak grid voltage 2 kV, negative
voltage [2]	2 kV	Tok aHoAa B UMy bce (Npy HaNpPRXKeHUu 3kV, peak grid voltage 2 kV, negative

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
voltage [1]	3 V	anoga 3 kB, HanpskeHnn CeTKn B UMNybce grid voltage 250 V), A, atleast 350
voltage [2]	250 V	anoga 3 kB, HanpskeHnn CeTKn B UMNybce grid voltage 250 V), A, atleast 350
voltage [3]	350 V	anoga 3 kB, HanpskeHnn CeTKn B UMNybce grid voltage 250 V), A, atleast 350
voltage [1]	2 A	2 kB, oTpuyaTenbHOM HANPSXXEHUN CETKK Peak grid current (at anode voltage 3kV,
voltage [2]	3 A	2 kB, oTpuyaTenbHOM HANPSXXEHUN CETKK Peak grid current (at anode voltage 3kV,
grid [1]	250 kV	250 B), A, He meHee 350 peak grid voltage 2 kV, negative grid
grid [2]	350 kV	250 B), A, He meHee 350 peak grid voltage 2 kV, negative grid
grid [3]	2 kV	250 B), A, He meHee 350 peak grid voltage 2 kV, negative grid
voltage [1]	250 V	Tok ceTkW B UMNynbce (MPY Hanps>KeHun voltage 250 V), A,atmost 105
voltage [2]	105 V	Tok ceTkW B UMNynbce (MPY Hanps>KeHun voltage 250 V), A,atmost 105
voltage [1]	3 uS	aHoAa 3 KB, HanpsXxeHnn CeTKu B uMnynbce Mutual conductance (at anode voltage 4 kV,
voltage [2]	4 uS	aHoAa 3 KB, HanpsXxeHnn CeTKu B uMnynbce Mutual conductance (at anode voltage 4 kV,
currents [1]	2 uA	2 kB, 0TprUATENBEHOM HANPSHKEHUN CETKN anode currents 2.5and 4.5A), mA/NV 65—85
currents [2]	0 uA	2 kB, 0TprUATENBEHOM HANPSHKEHUN CETKN anode currents 2.5and 4.5A), mA/NV 65—85
currents [3]	2.5 uA	2 kB, 0TprUATENBEHOM HANPSHKEHUN CETKN anode currents 2.5and 4.5A), mA/NV 65—85
currents [4]	4.5 uA	2 kB, 0TprUATENBEHOM HANPSHKEHUN CETKN anode currents 2.5and 4.5A), mA/NV 65—85
currents [5]	65 uA	2 kB, 0TprUATENBEHOM HANPSHKEHUN CETKN anode currents 2.5and 4.5A), mA/NV 65—85

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
currents [6]	-85 uA	2 kB, 0TprUATENBEHOM HANPSHKEHUN CETKN anode currents 2.5and 4.5A), mA/NV 65—85
voltages [1]	105 V	... 105 Gain coefficient (at anode voltages 3 and
voltages [2]	3 V	... 105 Gain coefficient (at anode voltages 3 and
heating time, s,atmost [1]	4 s	HanpspkeHuy aHoAa 4 kB, Tokax aHoga Cathode heating time, s,atmost 15
heating time, s,atmost [2]	15 s	HanpspkeHuy aHoAa 4 kB, Tokax aHoga Cathode heating time, s,atmost 15
voltage [1]	25 W	25n45A),MAB o 65—85 Peak oscillatory power (at anode voltage 26 kV,
voltage [2]	5 W	25n45A),MAB o 65—85 Peak oscillatory power (at anode voltage 26 kV,
voltage [3]	65 W	25n45A),MAB o 65—85 Peak oscillatory power (at anode voltage 26 kV,
voltage [4]	-85 W	25n45A),MAB o 65—85 Peak oscillatory power (at anode voltage 26 kV,
voltage [5]	26 W	25n45A),MAB o 65—85 Peak oscillatory power (at anode voltage 26 kV,
pulse [1]	1000 us	KoadbchbuumeHT yeuneHus (npu HanpsxeHuu pulse duration 1,000 us, pulse 1/duty
pulse [2]	1 us	KoadbchbuumeHT yeuneHus (npu HanpsxeHuu pulse duration 1,000 us, pulse 1/duty
frequency at most [1]	3 Hz	aHoga 3u 4 kB, Toke aHoga4,5A) 30- 44 factor at least 40, frequency at most
frequency at most [2]	4 Hz	aHoga 3u 4 kB, Toke aHoga4,5A) 30- 44 factor at least 40, frequency at most
frequency at most [3]	5 Hz	aHoga 3u 4 kB, Toke aHoga4,5A) 30- 44 factor at least 40, frequency at most
frequency at most [4]	30 Hz	aHoga 3u 4 kB, Toke aHoga4,5A) 30- 44 factor at least 40, frequency at most
frequency at most [5]	-44 Hz	aHoga 3u 4 kB, Toke aHoga4,5A) 30- 44 factor at least 40, frequency at most
frequency at most [6]	40 Hz	aHoga 3u 4 kB, Toke aHoga4,5A) 30- 44 factor at least 40, frequency at most
input [1]	26	(Npu HanpsbkeHuW aHoaa 26 kB, anutens- input 160-185
input [2]	160	(Npu HanpsbkeHuW aHoaa 26 kB, anutens- input 160-185

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
input [3]	-185	(Npu HanpsbkeHuW aHoaa 26 kB, anutens-input 160-185
output,tatmost L [1]	1000	HocTu uMnynbca 1000 MKC, CKBaXKHOCTH output,tatmost L. 3.5
output,tatmost L [2]	3.5	HocTu uMnynbca 1000 MKC, CKBaXKHOCTH output,tatmost L. 3.5
current, A [1]	800 A	Hambonbumia myckoBon TOK Hakana, A 800 Filament startingcurrent, A 800
current, A [2]	800 A	Hambonbumia myckoBon TOK Hakana, A 800 Filament startingcurrent, A 800
voltage, kV	32 kV	Han6onbLuee HanpsXXeHne aHoaa B Peak anode voltage, kV 32
Dissipation, kW	32 kW	wmnynece, kKB L 32 Dissipation, kW:
grid [1]	40	AHOAOM . . « v v o e e 40 grid 1
grid [2]	1	AHOAOM . . « v v o e e 40 grid 1
pulse duration,us [1]	40 us	HavMeHbluasi CKBaXHOCTb 40 Maximum pulse duration,us 1,000
pulse duration,us [2]	1000 us	HavMeHbluasi CKBaXHOCTb 40 Maximum pulse duration,us 1,000
frequency, MHz [1]	1000 MHz	Han6onbluas AnAMTensHOCTb UMNyMbCa, MKC 1000 Operating frequency, MHz 170
frequency, MHz [2]	170 MHz	Han6onbluas AnAMTensHOCTb UMNyMbCa, MKC 1000 Operating frequency, MHz 170
Temperature at metal-to-ceramic seals,°C [1]	170 C	Hambonbwasyactota, My 170 Temperature at metal-to-ceramic seals,°C 150
Temperature at metal-to-ceramic seals,°C [2]	150 C	Hambonbwasyactota, My 170 Temperature at metal-to-ceramic seals,°C 150
grid; = Foa	9	anode-grid; = Foa 9

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

